Amendment to the Claims

Kindly amend claims 1-4, 6-8, 10, and 12-14 and cancel claim 9 as set forth below. Also, please add new claims 15, 16, and 17 as set forth below. In compliance with the Revised Amendment Format published in the Official Gazette on February 25, 2003, a complete listing of claims is provided herein. The changes in the amended claims are shown by strikethrough (for deleted matter) and underlining (for added matter).

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1.   (Currently Amended) A method of operating a buffer memory, the buffer having a plurality of entries, the entries being subject ~~of at least one process to work on~~ to processing by ~~at least one process~~, said method comprising:

processes

generating ~~for each of said entries validation information which is evaluable for the status of an entry relative to its~~ an active bit string for each of said ~~at least one process~~, wherein the active bit string comprises status information for the entries, and wherein the status information of an entry of said entries indicates readiness of the entry for further processing by said at least one process[[.]]; and

said generating comprises computing the status information by

(i) comparing an entry index of the entry to an out-pointer to determine whether the entry index is greater than or equal to the out-pointer,

(ii) comparing the entry index of the entry to an in-pointer to determine whether the entry index is less than the in-pointer;

in said buffer

(iii) determining whether a buffer wrap around has occurred, and one of the comparing (i) and the comparing (ii) is true, and if so, setting the status information of the entry to a value which indicates said readiness of the entry for further processing by the at least one process; and

(iv) determining whether the comparing (i) and the comparing (ii) are both true, and if so, setting the status information of the entry to a value which indicates said readiness of the entry for further processing by the at least one process.
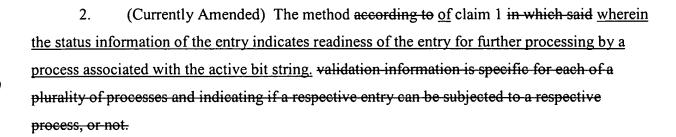
2.   (Currently Amended) The method ~~according to~~ of claim 1 ~~in which said~~ wherein the status information of the entry indicates readiness of the entry for further processing by a process associated with the active bit string. ~~validation information is specific for each of a plurality of processes and indicating if a respective entry can be subjected to a respective process, or not.~~

3.   (Currently Amended) The method according to claim 1, ~~comprising generating said validation information by combinatorial logic processing a process-related IN-pointer and OUT-pointer~~ wherein computing the status information further comprises maintaining an in-pointer and an out-pointer for each of said at least one process and wherein said comparing (i) utilizes a comparator, and said comparing (ii) utilizes a comparator.

4.   (Currently Amended) The method according to claim 3 ~~in which~~ wherein said buffer memory [[is]] operates as [[a]] an instruction window buffer, which can store ~~able to be filled with~~ processing instructions, and said ~~processes~~ at least one process is one of a plurality of processes comprising ~~being~~ at least two of dispatching new instructions to ~~said~~ the instruction window buffer, retiring instructions from said instruction window buffer by a commit process, or purging at least one instruction from said window buffer.

5.   (Original) The method according to claim 3 for use in managing queues.

6.   (Currently Amended) A buffer storage device having a plurality of [[n]] entries, the entries being subject ~~of at least one process to work on~~ to processing by ~~at least one process~~ processes, and comprising:

means for generating ~~for each of said entries validation information which is evaluable for the status of an entry relative to its~~ an active bit string for each of said ~~at least one process~~ processes, wherein the active bit string comprises status information for the entries, and wherein the status information of an entry of said entries indicates readiness of the entry for further processing by said at least one process[[.]]; and

means for computing the status information by

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(i) comparing an entry index of the entry to an out-pointer to determine whether the entry index is greater than or equal to the out-pointer,

(ii) comparing the entry index of the entry to an in-pointer to determine whether the entry index is less than the in-pointer;

(iii) determining whether a buffer wrap around ~~in said buffer~~ has occurred, and one of the comparing (i) and the comparing (ii) is true, and if so, setting the status information of the entry to a value which indicates ~~said~~ readiness of the entry for further processing by the at least one process; and

(iv) determining whether the comparing (i) and the comparing (ii) are both true, and if so, setting the status information of the entry to a value which indicates ~~said~~ readiness of the entry for further processing by the at least one process.

8. ~~7.~~ (Currently Amended) The buffer storage device of claim ~~6~~ 7 ~~in which said~~ wherein the status information of the entry indicates readiness of the entry for further processing by a process associated with the active bit string. ~~validation information is specific for each of a plurality of processes and indicating if a respective entry can be subjected to a respective process, or not.~~

9. ~~8.~~ (Currently Amended) The buffer storage device of claim ~~7~~ 8 ~~in which the means for generating said validation information is a combinatorial logic processing process-related values of pointers~~ wherein the means for computing the status information further comprises maintaining an in-pointer and an out-pointer for each of said at least one process and wherein said comparing (i) utilizes a comparator, and said comparing (ii) utilizes a comparator.

9. (Canceled)

12. ~~10.~~ (Currently Amended) A microprocessor device having at least one ~~sub-unit~~ buffer storage device according to claim [[9]] 7.

13. ~~11.~~ (Original) A computer system having a microprocessor device according to claim ~~10~~ 12.
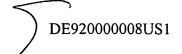
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~~12.~~ (Currently Amended) A computer system having a microprocessor device, said microprocessor device having at least one sub-unit, said at least one sub-unit having one or more storage devices, at least one storage device of said one or more storage devices having a plurality of [[n]] entries, the entries being subject ~~of at least one process to work on~~ to processing by at _{Processes} ~~least one process~~, and said at least one storage device comprising:

means for generating ~~for each of said entries validation information which~~ ~~is evaluable for the status of an entry relative to its~~ an active bit string for each of said _{Processes} ~~at least one process~~, wherein the active bit string comprises status information for the entries, and wherein the status information of an entry of said entries indicates readiness of the entry for further processing by said at least one process~~[[.]]~~; and

means for computing the status information by

(i) comparing an entry index of the entry to an out-pointer to determine whether the entry index is greater than or equal to the out-pointer,

(ii) comparing the entry index of the entry to an in-pointer to determine whether the entry index is less than the in-pointer;

(iii) determining whether a buffer wrap around _{in said storage device} has occurred, and one of the comparing (i) and the comparing (ii) is true, and if so, setting the status information of the entry to a value which indicates _{said} readiness of the entry for further processing by the at least one process; and

(iv) determining whether the comparing (i) and the comparing (ii) are both true, and if so, setting the status information of the entry to a value which indicates _{said} readiness of the entry for further processing by the at least one process.

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~~13.~~ (Currently Amended) The computer system of claim 14, ~~in which said~~ wherein the status information of the entry indicates readiness of the entry for further processing by a process associated with the active bit string. ~~validation information is specific for each of a~~ ~~plurality of processes and indicating if a respective entry can be subjected to a respective~~ ~~process, or not.~~

16.
~~14.~~ (Currently Amended) The computer system of claim ~~13~~ 15, <u>wherein the means for computing the status information further comprises maintaining an in-pointer and an out-pointer for each of said at least one process and wherein said comparing (i) utilizes a comparator, and said comparing (ii) utilizes a comparator.</u>

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~~15.~~ (New) The method of claim 1, wherein the determining (iii) further comprises inputting a result obtained from the comparing (i) and a result obtained from the comparing (ii) into an OR gate and computing a logical AND of the OR gate's output with an instruction window buffer wrap signal.

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~~16.~~ (New) The buffer storage device of claim ~~6~~, wherein said buffer storage device further comprises a plurality of means for computing the status information, wherein each of the plurality of means for computing is associated with one of the plurality of entries.

11   10
~~17.~~ (New) The buffer storage device of claim ~~16~~, wherein said each of the plurality of means for computing further comprises means for computing the status information associated with each of said of at least one process.